

Instructions for Use

Malt Extract Broth

Dehydrated Culture Media

REF - KM0128

1. Intended Use

KM0128 Malt Extract Broth is used for the cultivation of yeasts and moulds from food and environmental samples.

2. Composition*

<u>Ingredient</u>	<u>g/L</u>
Malt extract	17.0
Mycological peptone	3.0

*Adjusted/supplemented as needed to meet performance requirements

3. Summary and Explanation

Thom and Church ⁽¹⁾, following the formula of Reddish ⁽²⁾, used malt extract as a base from which they prepared Malt Extract Broth. This medium is commonly used as part of sterility testing protocols, though it is mostly used for comparative morphological studies, maintenance, isolation, and identification of fungi.

4. Principle

The high carbohydrate content of the medium ensures rapid growth of yeasts and moulds. Malt extract and mycological peptone provide the carbon, protein and nutrient sources required by the organisms. The acidic nature of this medium allows for optimal growth of moulds and yeasts while restricting bacterial growth.

5. Preparation Instructions

Suspend 20.0g of dried culture media in 1 litre deionised/purified water and allow to soak whilst mixing for 10 minutes.

Autoclave to sterilise at 115°C for 10 minutes before cooling in a water bath to 45-50°C.

Aseptically dispense the specified volume into appropriate sterile containers and allow to cool.

NB: For mycological count, it is advisable to adjust the reaction of medium more acidic with addition of 10% lactic acid. Antibiotics may be added as sterile solutions to the molten medium immediately before dispensing into sterile tubes in order to suppress bacterial growth.

6. Physical Characteristics

	Dehydrated Medium	Prepared Medium
Appearance and Colour	Beige fine powder	Pale brown liquid
pH	N/A	5.4 ± 0.2

7. Materials Provided

KM0128 can be provided in the formats detailed below. Each tub is labelled with product name, product code, lot number, expiry date, instructions, and appropriate warnings.

Product Code	Product Format
KM0128-500G-500	1 x 500g Dehydrated Culture Media Tub
KM0128-5KG-5000	1 x 5kg Dehydrated Culture Media Tub
KM0128-10KG-10000	1 x 10kg Dehydrated Culture Media Tub

8. Materials Needed but not Provided

Standard microbiological laboratory materials *e.g.*, autoclave, sterile loops or swabs, collection containers, incubators, and quality control organisms.

9. Specimens

KM0128 Malt Extract Broth is suitable for the testing of the following specimens:

- Food and Environmental: products for human consumption, animal feed and environmental samples

Sampling and transport equipment must be used in accordance with the end user's suppliers' recommendations. Refer to appropriate standard method or local guidance on sample collection and subsequent processing.

10. Test Procedures and Interpretation of results

Allow the media to come to room temperature.

Food/Environmental Specimens:

Solid samples: Prepare a homogenised suspension using a ratio of 1:9 of sample to Maximum Recovery Diluent (E&O BM0760).

With homogenised and liquid specimens, tubed media should be inoculated with 1ml of the specimen or incubate a single isolated colony using an inoculation loop and incubated at 25 ± 1°C aerobically for 24-48 hours.

If used for enrichment, after initial incubation, subculture 1ml onto a suitable agar (such as Sabouraud Dextrose Agar (E&O PP0240)) and incubate plates at $25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours.

After incubation, examine broths for turbidity; examine subcultures on agar for colonies (typical colony appearance outlined in Quality Control table below). Perform further biochemical, serological, or mass spectroscopy testing to confirm identity of presumptive positive isolates from subcultures. Refer to relevant local guidelines.

11. Quality Control

Organism	Incubation	Result (Specificity)
<i>C. albicans</i> (NCPF 3179) <i>S. cerevisiae</i> (NCPF 3178) <i>A. brasiliensis</i> (NCPF 2275)	$25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours $25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours $25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours Subcultured onto E&O PP0240 Sabouraud Dextrose Agar and incubated at $25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours	Broth: Turbid. Subplate: White colonies Broth: Turbid. Subplate: White colonies Broth: Surface growth. Subplate: White colonies with black pigmentation, reverse side pale yellow

It is the responsibility of the user to perform Quality Control testing taking into consideration the intended use of the medium, and in agreement with any local relevant guidelines (e.g., frequency, strains used, atmosphere, incubation temperature).

12. Performance

To fully verify KM0128 Malt Extract Broth performance, dehydrated culture media samples were used to prepare Malt Extract Broth and tested to assess turbidity, colony morphology and recovery level when incubated at $25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours, before being subcultured on E&O PP0240 Sabouraud Dextrose Agar and incubated at $25 \pm 1^\circ\text{C}$ aerobically for 24-48 hours. All samples of prepared media produced grew and showed good recovery and the correct morphology of the required test organisms: *Candida albicans* (NCPF 3179), *Saccharomyces cerevisiae* (NCPF 3178) and *Aspergillus brasiliensis* (NCPF 2275). Therefore, it can be concluded that KM0128 Malt Extract Broth, meets performance criteria when used according to the instructions outlined above. Trend analysis data available upon request.

13. Limitations of the Media

- Due to natural variation, some strains may grow poorly on this medium.
- Protracted boiling or prolonged holding at elevated temperature induces precipitation.

14. Precautions and Warnings

This product is considered non-hazardous under CLP regulations. Wear such PPE as recommended by laboratory COSHH assessment. During and after use, always handle all materials in a manner conforming to Good Laboratory Practices and consider that material under test should be regarded as a potential biohazard if mishandled.

Refer to KM0128 Material Safety Data Sheet.

15. Storage conditions and Shelf life

Store product in the original container with the lid tightly closed at between 10 and 30°C in low humidity conditions away from direct sunlight. Kept under these conditions, the product may be used up to the date of expiry shown on the product label.

Do not use if the product is not free-flowing or displays any sign of colour change, formation of large lumps or hardening of the powder. Additionally, do not use medium if it has been stored inappropriately, the packaging has been damaged or has passed the expiry date.

Dehydrated culture media does not need to be used all at once; replace the cap and ensure that the container is tightly closed and stored according to labelled instructions.

Dispose of in accordance with local and national authority requirements.

16. References

1. Reddish, G. (1919). A substitute for beer wort as a bacteriological culture medium. J Bacteriol, 3, pp.6-7.
2. Thom and Church (1926) The Aspergilli. Baltimore: Williams & Wilkins.

Version History*

- 001 26/09/2023 - New document created
- 002 16/12/2025 - Removed IVDR status to reflect current usage

*Note: minor typographical, grammatical, and formatting changes are not included in the revision history.

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IFU/KM0128 REV. 002

TABLE OF APPLICABLE SYMBOLS

 REF Catalogue number	 LOT Batch code		 Manufacturer	 Use by
 Temperature limitation	 Contents sufficient for <n> tests	 Consult instructions for Use	 Keep away from direct light	 Store in a dry place